#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of HOLMAN

Application No.

Examiner:

Filed: Herewith

Group Art Unit:

For:

DISPOSABLE SCALPEL WITH RETRACTABLE BLADE

## CLAIM OF FOREIGN PRIORITY AND SUBMISSION OF CERTIFIED COPY OF FOREIGN PRIORITY APPLICATION

Mail Stop Patent Applications Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Priority under the International Convention for the Protection of Industrial Property and under 35 U.S.C. §119 is hereby claimed for the above-identified patent application, based upon South African Application No. 2002/9334, filed November 18, 2002, and upon South African Application No. 2003/5355, filed July 11, 2003. A certified copy of each of the priority applications are submitted herewith, which perfects the claim to foreign priority.

Respectfully submitted,

Date: 9-5-03

Mark D. Passler

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Docket No. 9650-4

Applicant: Holman, Atry Doer: 9650-4

Sertifikaat
PATENTKANTOOR
REPUBLIC OF SOUTH AFRICA

PATENT OFFICE REPUBLIEK VAN SUID-AFRIKA

DEPARTMENT OF TRADE AND INDUSTRY

DEPARTEMENT VAN HANDEL EN NYWERHEID

Hiermee word gesertifiseer dat This is to certify that

the documents annexed hereto are true copies of:

Application forms P.1 and P.3, complete specification of Patent No. 2003/5355 as originally filed in the Republic of South Africa on 11 July 2003 in the name of MILTON, Trevor John for an invention entitled: "DISPOSABLE SCALPEL WITH RETRACTABLE BLADE".

Geteken te Signed at

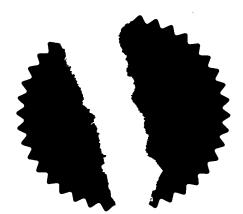
PRETORIA

in die Republiek van Suid-Afrika, hierdie in the Republic of South Africa, this

28th

dag van day of

August 2003



Registrateur van Patente

This application is accompanied by:

- 1 A single copy of a provisional or two copies of a complete specification of 10 pages
- X
- - 6 Certified priority document(s) (state number)
  - 7 Translation of the priority document(s)
    - 8 An assignment of priority rights
- 9 A copy of form P 2 and specification of S.A. Patent Application No.
- 10 A declaration and power of attorney on form P 3
  - 11 Request for ante-dating on form P 4
- 12 Request for classification on form P 9
- 13 Special Power of Attorney

21 (viii)

74 Address for Service: C/O Institute of Inventors, P O BOX 286, SAXONWOLD, 2132

Dated this..........day of July 2003.

Signature:...

The duplicate will be returned to the applicant's address for service as proof of lodging but is not valid unless endorsed with the official stamp REGISTRAR OF PATENTS DESIGNS, TRADE MARKS AND COPYRIGHT
Official date stamp

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Registrar of Patents REGISTRATEUR VAN PATENTE, MODELLE HANDELSMERKE EN OUTEURSREG

## REPUBLIC OF SOUTH SOUTH PATENTS ACT, 1978

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Form P3

#### **DECLARATION AND POWER OF ATTORNEY**

(Section 30 - Regualtion 8, 22(1) (c) and 33)

Patent Application Number		Re	ef	Lodging Date	
21 01 2003/5	355			22   2003 -	07- 11
Full Name(s) of Applicant(s)		<b></b>			
71 MILTON, Trevor John					
Full Name(s) of Inventor(s)	<del></del>	$\neg$			
72 HOLMAN, Robert Gera	ard				
Earliest Priority Claimed	Country		Number	Date	
YES	33	ZA	31	2002/9334 32	18/11/02
NOTE: The country must be indicated by its Title of Invention	International	Abbreviation - s	ee schedule 4 o	of the Regulations	
54 DISPOSABLE SCALPEI  *   MILTON, Trevor John	WITH RE	TRACTABI	E BLADE		
hereby declare that:-  * 1 l/we am/are the applicant(s) men	tioned above;				
2 I/We have been authorized by the applicant(s) to make this declaraction and hav knowledge of the					
facts herein of the applicant(s);  3 The Inventor(s) of the abovemen has/have acquired the right to ap 4 to the best of my/our knowledge ground for the revocation of the p	ply by virtue of and belief, if a	f an assignment	from the inven	tor(s).	
<ul> <li>5 this is a convention application at the frst application in a convention 6 the partners and qualified staff of severly, with powers of substitution the address for service of the application.</li> </ul>	nd the earliest in country in re f the firm of Th on and revocat	espect of the invine Institute of Intion, to represen	ention claimed ventors, patent it the applicant	in any of the claims; and attorneys, are authorised, joi (s) in this application and to b	ntly and
Signed at Johannesburg this 97	day of	July 2003.		Trea M.	1

In the case of application in the name of a company, partnership or firm, give full names of signatory/signatories, delete paragraph 1, and enter capacity of each signatory in paragraph 2.

If the applicant is a natural person, delete paragraph 2.

If the right to apply is not by virtue of an assignment from the inventor(s), delete \*an assignment from the inventor(s)\* and give details of acquisition of right.

For non-convention applications, delete paragraph 5.

## REPUBLIC OF SOUTH SOUTH PATENTS ACT, 1978

Form P 7

#### **COMPLETE SPECIFICATION**

(Section 30 (1) - Regualtion 28)

Official Application Number	Lodging Date		
21 1 22003/5355	22 2015 -07- † †		
International Classification			
51 <b>A61B</b>			
Full Name(s) of Applicant(s)			
71 MILTON, Trevor John			
Full Name(s) of Inventor(s)			
72 HOLMAN, Robert Gerard			
Title of Invention			
54 DISPOSABLE SCALPEL WITH RETRACTABLE BLADE			

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#### DISPOSABLE SCALPEL WITH RETRACTABLE BLADE

#### 5 FIELD OF THE INVENTION

This invention relates to a disposable scalpel having a retractable blade and, more particularly, to a disposable scalpel in which movement of the blade relative to a supporting scalpel handle between an extended operative position and a retracted inoperative position is achieved by moving a blade carrier by way of a thumb operable slider attached, generally by way of a slot through the wall of the handle, to the blade carrier.

#### **BACKGROUND TO THE INVENTION**

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Disposable scalpels having retractable blades have been proposed and produced in many different forms. The various different forms can, for present purposes, be considered to fall into two different categories; a first being scalpels in which the thumb operable slider projects through a side wall of the scalpel handle, and a second in which the slider projects through a slot in one edge that can be considered to be the top edge of the scalpel handle.

The first type of scalpel that has the slider projecting through a side wall of the handle is considered to suffer from a number of disadvantages, not least of which is that one designed for use by a right-handed person cannot easily be used by a left-handed person and vice versa. United States patent No 6,254,621 describes a scalpel that is typical of this type.

The second type of scalpel that has the slider projecting through the top edge of the scalpel handle generally has the disadvantage that the scalpel handle is made in two parts that are subsequently secured together with the blade 1520 2003/07/09

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carrier inside the handle and the associated slider projecting through a slot in the top edge of the composite handle. Typical of this type of construction are the scalpels described in United States patents 5,330,493; 5,556,409; and 5,571,127. The two-part construction of the handle is considered by applicant to be undesirable for a variety of reasons not least of which is the fact that the handle could possibly come apart.

There are a number of factors that are independent of the type of construction that are considered to be desirable and that are present to greater or lesser extents in existing scalpels, these being factors that contribute to the scalpel blade being held firmly in its operative position; being held positively in its retracted inoperative position; and also a facility aimed at preventing reuse of a scalpel in an effort to avoid so-called sharps injuries to personnel that may come into contact with used medical equipment.

#### **OBJECT OF THE INVENTION**

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It is, accordingly, an object of this invention to provide a scalpel with a retractable blade that has one or more improved features over the prior art scalpels of which applicant is aware.

#### SUMMARY OF THE INVENTION

In accordance with this invention there is provided a scalpel having a handle with a longitudinally extending cavity therein, a blade carrier within the cavity and movable longitudinally relative to the handle between an operative position in which a blade carried thereby is exposed for use at an open end of the cavity and an inoperative position in which a blade carried thereby is retracted within the cavity in the handle, and a manually operable slider associated with the blade carrier and passing through a slot in a wall of the handle at an edge thereof, herein termed the top edge; the scalpel being 1520 2003/07/09

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characterized in that the handle is moulded as a single piece moulding with an integral bridge defining an endless open end to the cavity through which the blade carrier may be introduced into the cavity and in that the slider is formed as a separate part that snap fits to the blade carrier after introduction through the open end of the cavity to form a blade carrier and slider assembly.

Further features of the invention provide for the slider and one or other longitudinally extending edge of the slot to be provided with co-operating tooth and notch formations that cooperate to releasably hold the blade carrier and slider assembly in "click-stop" manner in the operative and inoperative positions; for the blade carrier and slider assembly to have an innermost, terminal locked position defined by co-operating formations on the slider and edges of the slot, such terminal locked position being one in which the blade carrier is located inwards of the normal inoperative position and from which it is substantially impossible to unlock the blade carrier, at least for practical purposes; for a plurality of notches to be associated with both the operative and inoperative positions of the blade carrier and slider assembly so that a series of at least two and optionally three or more "click-stops" are associated with each of the operative and inoperative positions such that a person operating the scalpel will know exactly, by feel, and optionally also hearing, the position of the blade carrier in the handle; and for the tooth and notch formations to be adapted such that an audible "click" is created when a tooth engages a notch.

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A further feature of the invention provides for the slider to have a pair of transverse tongues with oppositely directed latch formations at their inner ends for cooperating with cooperant transverse sockets formed in the blade carrier. The tongues are preferably coplanar and spaced apart in the longitudinal direction of the slider.

Preferably, the blade carrier is configured such that it can accept a plurality of different style blades, thereby rendering it more versatile than prior art scalpels.

In order that the invention may be more fully understood one embodiment thereof will now be described with reference to the accompanying drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

10 In the drawings:-

- Figure 1 is an exploded perspective view from the side of a scalpel according to the invention but offset such that the top edge of the handle is somewhat visible;
- Figure 2 is a similar view, but more from the top, and showing the scalpel partly assembled;
  - Figure 3 is a cross-section taken through the handle of the scalpel;
  - Figure 4 is an inverted plan view of the slider showing the tooth and slide block formations formed integral therewith;
- Figure 5 is a detail of the slider in its exploded position illustrated in Figure 2;
  - Figure 6 is a detail, partly broken away, and showing the cooperation between tooth and notch formations of the slot and slider with the latter in the operative position;

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- Figure 7 is a perspective view of the scalpel from one side of the top thereof showing the slider partly broken away in its fully locked position;
- 5 Figure 8 is a view similar to Figure 6 showing the cooperation between tooth and notch formations of the slot and slider with the latter in the inoperative position; and,
- Figure 9 is a detail similar to Figure 8 but showing the tooth and notch formations in the final locked position of the slider relative to the scalpel handle (in the position illustrated in Figure 7).

#### DETAILED DESCRIPTION WITH REFERENCE TO THE DRAWINGS

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In the embodiment of the invention illustrated in the drawings, a scalpel comprises a single piece injection moulded plastics handle (1), a blade carrier (2) slidable longitudinally in a longitudinal cavity (3) within the plastics handle, a separately moulded, manually operable slider (4) that combines with the blade carrier to form a blade carrier assembly in the assembled condition, and, for use, a scalpel blade (5) that is fitted to the blade carrier.

The handle has a longitudinally extending slot (6) extending along its operatively top edge (7) from a forward end (8) of the handle towards a rear end (9) thereof and communicating with the cavity inside. An integral bridge (10) at the front end of the top edge forms an endless open end (11) to the cavity and provides dimensional stability to this end for firmly holding the blade carrier in its operative position.

The blade carrier is elongate and has a longitudinally extending ridge (12) that is received in a cooperating groove (13) (see Figure 3) on one side wall of the cavity. The blade carrier is configured to slide longitudinally within the

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cavity and to receive and support a variety of different scalpel blade types. The blade carrier is clearly shaped, in cross-section, to be introduced through the open end (11) to the cavity.

The blade carrier also has a pair of transverse sockets (14) being configured to receive a pair of transverse tongues (15) extending from the slider, the tongues each having a catch formation (16) at its free end that locks onto the blade carrier in irreversible manner when the tongues are introduced into the sockets with the blade carrier in the cavity. Once this is being achieved, the blade carrier is held captive within the cavity and can be slid in and out by manually operating the slider, generally by a person holding the scalpel handle and utilizing the thumb to achieve this.

The slider has, on its upper surface, a longitudinally extending ridge (17) that cooperates with the slot to align the slider correctly relative to it. Extending laterally outwards from the ridge at each end thereof is an integral miniature slide block (18) that cooperate with the one edge of the slot and, on the other side of the ridge, are a forward tooth (19) positioned inwards from the nearer end of the ridge and a rearward tooth (20) located opposite the rear slide block (18).

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The teeth (19) and (20) are substantially identical and are of trapezoidal or triangular shape to provide inclined faces (21) to cooperate with the inclined edges (22) to notches (23) formed in the associated edge of the slot at both the front and rear ends thereof. In the case of both the front and rear ends of the slot there are provided a series of four juxtaposed notches for cooperation with the forward tooth (19) and rearward tooth (20) respectively when the slider is at the forward or rear ends of the slot.

The arrangement is such that as the slider is moved towards either of the operative or inoperative positions the respective tooth will engage sequentially with the notches of the series of four and will form a "click-stop" 1520 2003/07/09

in each position. A person operating the slider will be able to feel these sequential "click-stops" and, with appropriate design, also hear them. It will thus be immediately apparent as to the exact location of the blade relative to the handle.

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In addition to the above, the rear end of the slot is also provided with a ramp (24) on the side opposite the notches, the ramp communicating with a neck (25) that in turn communicates with a rectangular terminal aperture (26) forming the inner end of the slot. This arrangement is such that when additional force is applied to the slider in a direction towards the rear end of the handle, the slide block (18) and opposite rear tooth (20) are forced together through the neck and into the aperture in an irreversible manner so that the slider is permanently locked in the retracted position. This final position is illustrated clearly in Figure 9.

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It will be understood that, in use, the scalpel may be stored and transported with the blade carrier and associated blade in a retracted position with the slider held in one of the "click-stop" retracted positions. This position may also be used during the conduct of operations in between times when the scalpel is required for use. As and when required, the blade carrier can be moved to present the scalpel blade in its operative position with the blade carrier being arrested in a forward "click-stop" position. The position of the blade relative to the handle can be sensed extremely easily by a person using the scalpel. It is also to be noted that the "click-stop" positions can be used for the purpose of depth control

Once the scalpel has served its purpose and is to the disposed of, the slider is moved to its final locked position so that, to all intents and purposes, it is impossible to use the scalpel again. The scalpel blade is thus held in an extremely safe locked inoperative position for disposal, thereby avoiding the

possibility of any so-called sharps injuries.

It will be understood that numerous variations may be made to the embodiment of the invention described above without departing from the scope hereof.

#### **CLAIMS:**

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- 1. A scalpel having a handle with a longitudinally extending cavity therein, a blade carrier within the cavity and movable longitudinally relative to the handle between an operative position in which a blade carried thereby is exposed for use at an open end of the cavity and an inoperative position in which a blade carried thereby is retracted within the cavity in the handle, and a manually operable slider associated with the blade carrier and passing through a slot in a wall of the handle at an edge thereof, herein termed the top edge; the scalpel being characterized in that the handle is moulded as a single piece moulding with an integral bridge defining an endless open end to the cavity through which the blade carrier may be introduced into the cavity and in that the slider is formed as a separate part that snap fits to the blade carrier after introduction through the open end of the cavity to form a blade carrier and slider assembly.
- A scalpel as claimed in claim 1 in which the slider and at least one longitudinally extending edge of the slot are provided with co-operating tooth and notch formations that cooperate to releasably hold the blade carrier and slider assembly in "click-stop" manner in the operative and inoperative positions.
- 3. A scalpel as claimed in either one of claims 1 or 2 in which for the blade carrier and slider assembly have an innermost, terminal locked position defined by co-operating formations on the slider and edges of the slot, such terminal locked position being one in which the blade carrier is located inwards of the normal inoperative position and from which it is substantially impossible to unlock the blade carrier, at least for practical purposes.

- 4. A scalpel as claimed in claim 2 in which a plurality of notches are associated with both the operative and inoperative positions of the blade carrier and slider assembly so that a series of at least two, and optionally three or more "click-stops" are associated with each of the operative and inoperative positions.
- 5. A scalpel as claimed in either one of claims 2 or 4 in which the "click-stops" are configured to create an audible sound upon engagement of a tooth with a notch.

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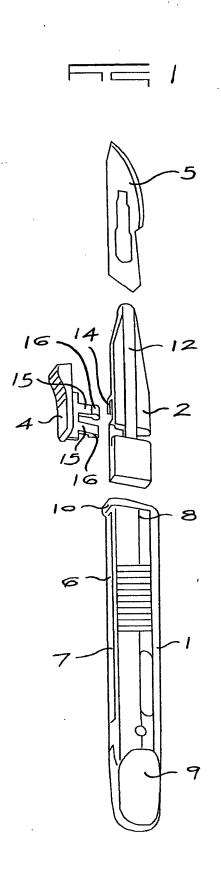
6. A scalpel as claimed in any one of the preceding claims in which the slider has a pair of transverse tongues with oppositely directed catch formations at their inner ends for cooperating with cooperant transverse sockets formed in the blade carrier.

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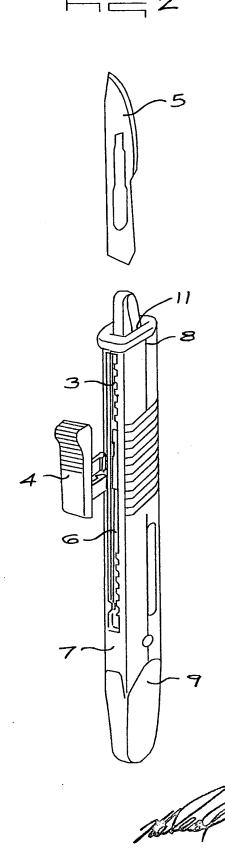
- 7. A scalpel as claimed in claim 6 in which the tongues are coplanar and spaced apart in the longitudinal direction of the slider.
- 8. A scalpel as claimed in any one of the preceding claims in which the blade carrier is configured such that it can accept a plurality of different style blades.
  - 9. A scalpel substantially as herein described and exemplified with reference to the accompanying drawings.

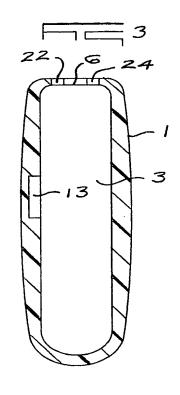
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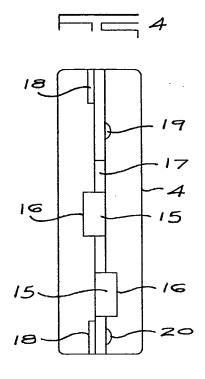
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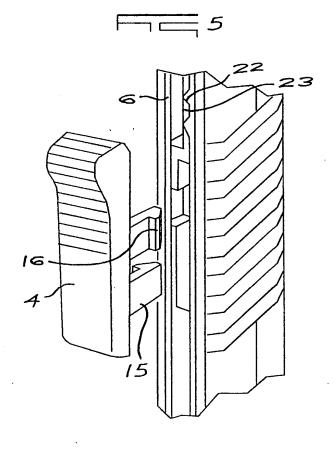


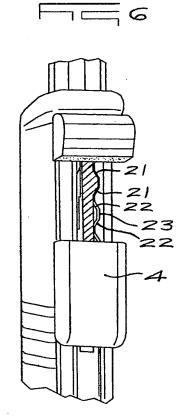
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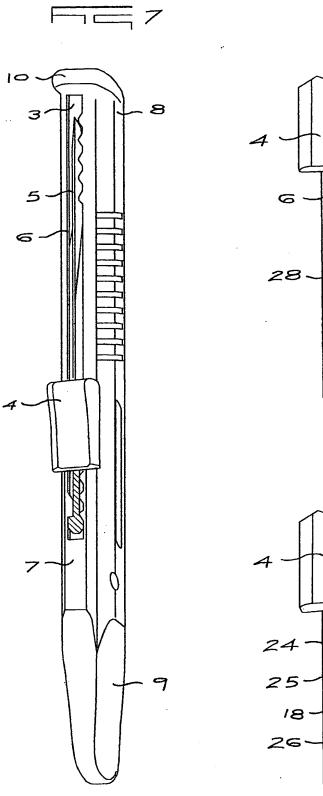


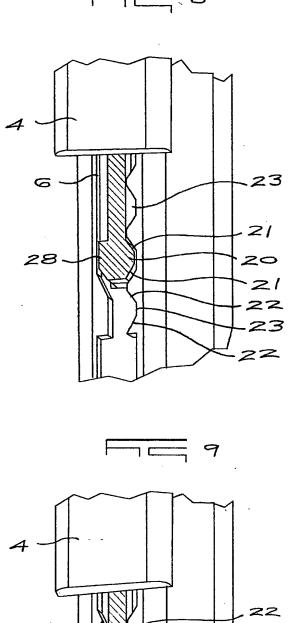






Miland







Applicant. Holman, Atty Dist: 9650-4

*Sertifikaat*PATENTKANTOOR
REPUBLIC OF SOUTH AFRICA

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REPUBLIEK VAN SUID-AFRIKA

DEPARTMENT OF TRADE AND INDUSTRY

DEPARTEMENT VAN HANDEL EN NYWERHEID

Hiermee word gesertifiseer dat This is to certify that

the documents annexed hereto are true copies of:

Application forms P.1 and P.2, provisional specification and drawings of South African Patent Application No. 2002/9334 as originally filed in the Republic of South Africa on 18

November 2002 in the name of HOLMAN ROBERT GERARD for an invention entitled: "MEDI-SAFE SCALPEL".

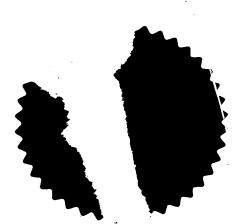
Geteken te Signed at PRETORIA

in die Republiek van Suid-Afrika, hierdie in the Republic of South Africa, this

26th

dag van day of

August 2003



Registrateur van Fatente

D1015125

# APPLICATION FOR A PATENT AND ACKNOV [Section 30 (1)—Fegulation 2012 R20 | R20 | R20 | R20 | R20 | REGISTR. EUR VAN PATENT, AND EUR.

The grant of a patent is hereby requested by the undermentioned applicant on the basis of the present application filed in duplicate. Official Application No. Applicant's or agent's reference (ii) HOLMAN ROBERT GERARD 411 MAIN AVE FERNDALE RANDBURG 71 Full name(s) of applicant(s) ..... Address(es) of applicant(s)..... (iv) MEDI-SAFE Title of invention (v) The applicant claims priority as set out on the accompanying form P 2. (vi) This application is for a patent of addition to Patient Application No. 01 (vii) This application is a fresh application in terms of section 37 and based on Application No. 21 01 (viii) This application is accompanied by: A single copy of a provisional er-two copies of a complete specification of.....pages. 1. Drawings of..........sheets. 2. Publication particulars and abstract (form P 8 in duplicate). 3. 4. A copy of Figure.....of drawings (if any) for the abstract. 5. An assignment of invention. 6. Certified priority document(s) (state number). 7. Translation of the priority document(s). 8. An assignment of priority rights. A copy of the form P 2 and the specification of S.A. Patent Application No. | 21 | 01 9. 10. A declaration and Power of Attorney on form P 3. 11. Request for ante-dating on form P 4. 12. Request for classification on form P 9. 13. (ix)

74 Address for service: P.O. Box 2856 KA	NDBucg 2125
,	REGY. PESIGNS,
Dated this 18th day of lovember 20.02	Received - KIGHT
Dated this day of 100em ber 20.02	Official Hale stann 18
Signature of applicant(s) or agent	REGISTRATSUS VAN TATEUTE, MODELLE,
The duplicate will be returned to the applicant's address for service as proof of	Registrar of Patents

(To be lodged in duplicate)

REPUBLIC OF SOUTH AFRICA PATENTS ACT, 1978						
·		REGISTER	OF PATENTS		··	
Official application No.				Acceptance date		
21 40/2002/0	334	22		47		
International classification	<del>334</del>	Lodging date: Complete		Granted date		
51		23				
Full name(s) of applicant(s)/P	atentee(s):					
11 HOLMAN ROBERT GERARD						
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Applicants substituted:	·		<del></del>	Date registered		
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Assignee(s):				Date registered		
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Title of invention:						
54 MEDI - SAFE SCALPEL						
Address of applicant(s)/Pater	itee(s)					
211 MAIN AUE FERNDALE RAND'BURG						
Address for service						
14 P.O. Box 2256 KANDBURG 2125						
Patent of addition No. Date of any change						
61						
Fresh application based on Date of any change						

P 015 (E)

# PATENTS ACT, 1978

#### **PROVISIONAL SPECIFICATION**

(Section 30(1) - Regulation 27)

Official Application No.	Lodging Date
21 01 2002/9334	22
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Full name(s) of applicant(s)	
71 HOLMAN ROBERT	GERARD
	·
Full name(s) of inventors(s)	
72 HOLMAN ROBERT	GERARD
	_
Title of invention	
54	

## <u>Application for a Provisional Patent Number for a Disposable Medi-Safe</u> <u>Scalpel</u>

Medi-safe Scalpel is a blade Holder with safety features. It consists of the following components: Handle, Slide Latch, Blade Holder and a Blade. As per sketch 1.

#### Sketch 2

Shows the assembly sequence.

- 1. Slide the blade holder into the front end of the handle until the stop in the blade holder is flush with the front end of the handle.
- 2. Clip slide latch into blade holder by pressing clip ends through slots in handle as shown in Detail A. Once this is clipped in it cannot be removed as clip ends face in opposite directions.
- 3. The blade holder allows the blades to be clipped on, which gives the flexibility of using different quality blades as well as different sized blades on the same holder.

#### Sketch 3

Shows the Scalpel in the ready to use position.

- 1. Shows the slide catch stops against the handle end.
- 2. Shows the slide latch.
- 3. Shows ratchet tooth in slide latch engages with corresponding ratchet groove in the handle.
- 4. Shows the handle

#### Sketch 4

Shows the Scalpel in closed safe position. Move slide latch backward until it becomes disengaged from the handle ratchet. The Scalpel is now in the safe position. The slide latch can be returned to the ready for use position by moving it forward under minor resistance from the ratchet tooth against the handle ratchet.

#### Detail A.

- 1. Show slide latch
- 2. Show handle
- 3. Ratchet tooth in end position
- 4. Ratchet handle

#### Sketch 5.

Scalpel in locked disposable position.

From closed safe position move slide latch a further short distance backwards until the resistance is overcome. The Scalpel is now in the "locked for disposable" position. The slide latch cannot move forward or backward.

#### Detail A.

- 1. Shows slide latch
- 2. Shows handle
- 3. Lock tooth on handle drops into local cavity in slide latch.

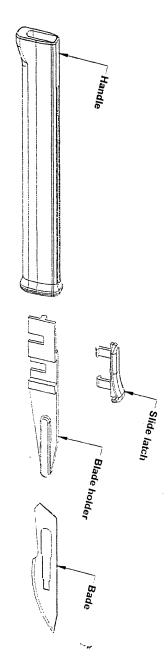
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The Medi-Safe Scalpel's important features are:

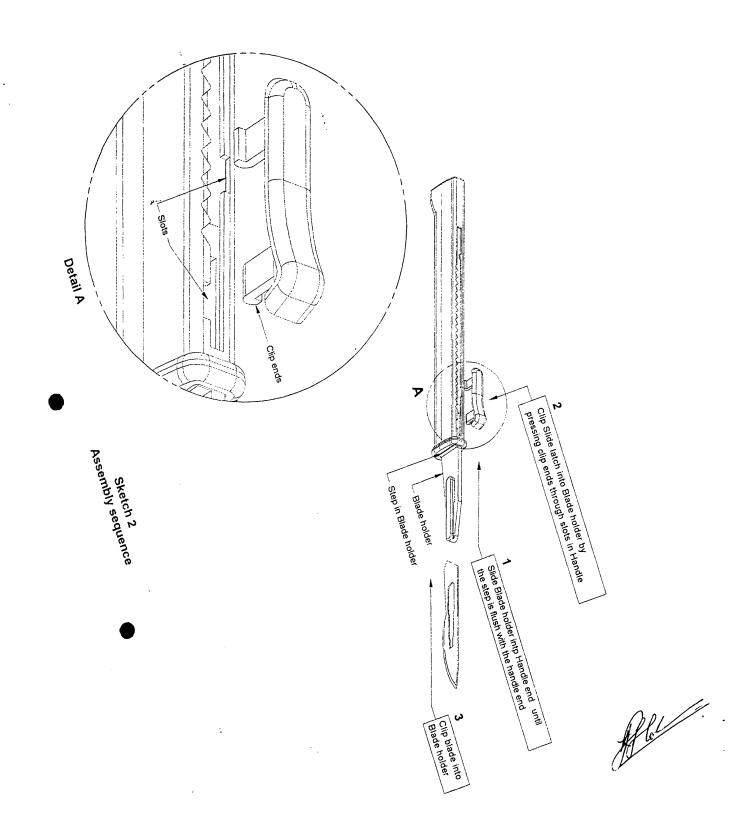
- 1. The slide latch on top of the Scalpel for constant control by the user of the product as well as ease of moving it from the "ready for use" position to the "close safe" position.
- 2. The opening on the handle on top gives total safety to the blade in the "closed safe" position.
- 3. The slotted blade holder allows the use of different blades either quality or size.
- 4. The "locked for disposal" position for complete safety when the Scalpel is ready to be disposed of.

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Sketch 1 Parts of assembly

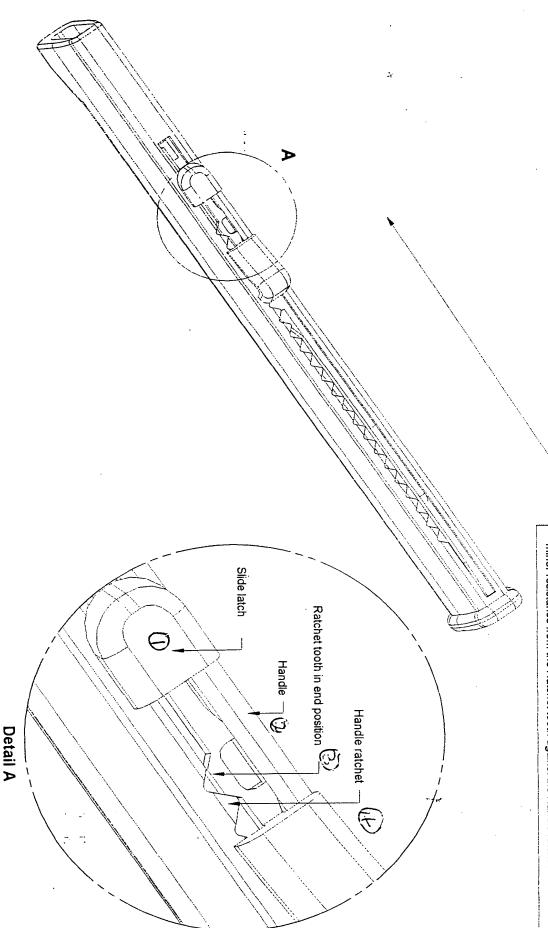


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Sketch 3
Scalpel in 'Ready for use'position

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Move slide latch backwards until it becomes disengaged from the Handle ratchet - The scalpel is now in the safe position. The Slide latch can be returned to the 'ready for use' position by moving it forward under minor resistance from the Ratchet tooth against the Handle ratchet

Sketch 4

Scalpel in 'closed-safe' position

Part of Slide latch removed for clarity

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position. The Slide latch cannot move forwards or backwards until a resistance is overcome. The Scalpel is now in the From closed safe position move Slide latch a further small distance backwards drops into Lock cavity in Slide latch Lock tooth on Handle Slide latch  $(\widehat{\mathcal{L}})$  Handle 'locked-for disposal'

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Sketch 5
Scalpel in 'locked-for disposal'position

Part of Slide latch removed for clarity

Detail A

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